

**Amendments to the Specification:**

Please replace the paragraph on page 6 between lines 23-26, inclusive, with the following amended paragraph:

Figure 7 shows the percent neutralization of cytotoxicity (Figure 7A) and hemolysis (Figure 7B) by non-immune and immune sera alone or preabsorbed with a recombinant expressed carboxy terminus of MbxA.

Please replace the paragraph on page 19 between lines 19-27, inclusive, with the following amended paragraph:

Figure 7 shows percent neutralization ( $\pm 1$  standard deviation) of cytotoxicity (~~top~~ Figure 7A) and hemolysis (~~bottom~~ Figure 7B) by non-immune sera alone or preabsorbed with the carboxy peptide. Cytotoxin was tested for neutralization with nonimmune fetal bovine serum (FBS); with preimmune sera A and B obtained from two rabbits A and B; with immune rabbit anti T+ sera obtained from T+ rabbit polyclonal antisera to culture filtrates from *M. bovis* strain T+; and with immune sera A and B obtained from rabbits A and B vaccinated with the carboxy peptide.

Please replace the paragraph starting on page 28, line 27, and spanning pages 28-29, with the following amended paragraph:

Prior to the field trial testing the *M. bovis* cytotoxin vaccine, a preliminary study had shown that calves vaccinated with a cytotoxin vaccine developed higher ~~tear~~ titre IgA concentrations than calves vaccinated with a cytotoxin in oil adjuvant. Results of the first field trial showed that calves receiving the cytotoxin vaccine had a significantly reduced requirement for treatment of IBK and had significantly reduced the severity of clinical IBK as compared to control calves.